04-29-05 SIFW

PTO/SB/21 (09-04)

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	10/786,566
Filing Date	February 24, 2004
First Named Inventor	Kano, Yoshiki
Art Unit	2171
Examiner Name	Unassigned
Attorney Docket Number	16869B-098100US

Total Number of Pages in This Submission: 22

ENCLOSURES *(Check all that apply)*

- [X] Fee Transmittal Form
  - [ ] Fee Attached
- [ ] Amendment/Reply
  - [ ] After Final
  - [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Reply to Missing Parts/ Incomplete Application
  - [ ] Reply to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [X] Petition to Make Special
- [X] Preliminary Amendment
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CD(s) _____
  - [ ] Landscape Table on CD
- [ ] After Allowance Communication to TC
- [ ] Appeal Communication to Board of Appeals and Interferences
- [ ] Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- [ ] Proprietary Information
- [ ] Status Letter
- [X] Other Enclosure(s) (please identify below):
  Eleven (11) Cited References
  Return Postcard

Remarks The Commissioner is authorized to charge any additional fees to Deposit Account 20-1430.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Townsend and Townsend and Crew LLP		
Signature			
Printed name	Chun-Pok Leung		
Date	April 27, 2005	Reg. No.	41,405

CERTIFICATE OF TRANSMISSION/MAILING

Express Mail Label: EV 529870041 US

I hereby certify that this correspondence is being deposited with the United States Postal Service with "Express Mail Post Office to Address" service under 37 CFR 1.10 on this date April 27, 2005 and is addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Signature			
Typed or printed name	Christina Mendoza	Date	April 27, 2005

PTO/SB/17 (12-04)

Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL
For FY 2005

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT	($) 130

Complete if Known	
Application Number	10/786,566
Filing Date	February 24, 2004
First Named Inventor	Kano, Yoshiki
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Art Unit	2171
Attorney Docket No.	16869B-098100US

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☒ Deposit Account Deposit Account Number: 20-1430 Deposit Account Name: Townsend and Townsend and Crew LLP

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, **except for the filing fee**

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WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038

FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES Fee ($)	FILING FEES Small Entity Fee ($)	SEARCH FEES Fee ($)	SEARCH FEES Small Entity Fee ($)	EXAMINATION FEES Fee ($)	EXAMINATION FEES Small Entity Fee ($)	Fees Paid ($)
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent	50	25
Each independent claim over 3 or, for Reissues, each independent claim more than in the original patent	200	100
Multiple dependent claims	360	180

Total Claims	Extra Claims	Fee ($)	Fee Paid ($)
_____	-20 or HP = _____	x _____	= _____

HP = highest number of total claims paid for, if greater than 20

Indep. Claims	Extra Claims	Fee ($)	Fee Paid ($)
_____	-3 or HP = _____	x _____	= _____

HP = highest number of independent claims paid for, if greater than 3

Multiple Dependent Claims Fee ($)	Fee Paid ($)
_____	_____

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee ($)	Fee Paid ($)
_____ - 100 =	_____ / 50 =	_____ (round up to a whole number) x	_____	= _____

4. OTHER FEE(S)

	Fees Paid ($)
Non-English Specification, $130 fee (no small entity discount)	
Other: Petition to Make Special for New Application Under M.P.E.P 708.02, VIII & 37 C.F.R. 1.02 (d)	130

SUBMITTED BY

Signature		Registration No. (Attorney/Agent) 41,405	Telephone 650-326-2400
Name (Print/Type)	Chun-Pok Leung		Date April 27, 2005

60478054 v1

PATENT
Attorney Docket No.: 16869B-098100US
Client Ref. No.: HAL297
(340301716US01)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

YOSHIKI KANO et al.

Application No.: 10/786,566

Filed: February 24, 2004

For: METHOD AND APPARATUS OF MEDIA MANAGEMENT ON DISK-SUBSYSTEM

Customer No.: 20350

Examiner: Unassigned

Technology Center/Art Unit: 2171

Confirmation No.: 1800

PETITION TO MAKE SPECIAL FOR NEW APPLICATION UNDER M.P.E.P. § 708.02, VIII & 37 C.F.R. § 1.102(d)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is a petition to make special the above-identified application under MPEP § 708.02, VIII & 37 C.F.R. § 1.102(d). The application has not received any examination by an Examiner.

(a) The Commissioner is authorized to charge the petition fee of $130 under 37 C.F.R. § 1.17(i) and any other fees associated with this paper to Deposit Account 20-1430.

(b) All the claims are believed to be directed to a single invention. If the Office determines that all the claims presented are not obviously directed to a single invention, then Applicants will make an election without traverse as a prerequisite to the grant of special status.

(c) Pre-examination searches were made of U.S. issued patents, including a classification search and a foreign patent database search. The searches were performed on or around March 11, 2005, and were conducted by a professional search firm, Mattingly, Stanger & Malur, P.C. The classification search covered Class 707 (subclass 204) and Class 711 (subclasses 111, 112, 114, 161, and 162). Because of the large size of these subclasses, keywords were used to narrow of number of documents returned. The foreign patent database search was conducted using Espacenet database and Japanese patent database.

(d) The following references, copies of which are attached herewith, are deemed most closely related to the subject matter encompassed by the claims:

(1) U.S. Patent No. 5,630,092;

(2) U.S. Patent No. 6,289,423 B1;

(3) U.S. Patent No. 6,446,176 B1;

(4) U.S. Patent No. 6,671,705 B1;

(5) U.S. Patent No. 6,714,952 B2;

(6) U.S. Patent Publication No. 2002/0083084 A1;

(7) U.S. Patent Publication No. 2003/0074378 A1;

(8) U.S. Patent Publication No. 2003/0229764 A1;

(9) U.S. Patent Publication No. 2003/0236956 A1;

(10) U.S. Patent Publication No. 2004/0172512 A1; and

(11) U.S. Patent Publication No. 2003/0110237 A1.

(e) Set forth below is a detailed discussion of references which points out with particularity how the claimed subject matter is distinguishable over the references.

A. Claimed Embodiments of the Present Invention

The claimed embodiments relate to management of a disk storage system and, more particularly, to the management of data that has been copied from one storage volume to another storage volume.

Independent claim 20 recites a storage system coupled to a host computer via a network, comprising first and second storage volumes being configured to store data accessed from the host computer according to a block access command; first setting information associated with the first storage volume; and a storage controller being configured to copy data in the first storage volume to the second storage volume according to a copy request from the host computer, the copy request including information specifying the first storage volume. The second storage volume is managed based on the first setting information associated with the first storage volume after the data stored in the first storage volume are copied to the second storage volume.

B. Discussion of the References

1. U.S. Patent No. 5,630,092

The patent to Carreiro et al., US 5630092 discloses a system and method for transferring compressed data between storage systems. This reference also discloses sharing a data stream between a first data storage system in communication with a second data storage system. A data stream which contains meta data is a Composite Data Stream (CDS). A data stream which contains no meta data generated by a storage unit is an Original Data Stream (ODS). Meta data is associated with each record of the data stream. The meta data for each data record is updated to indicate whether or not the record has been compressed. The data records with the updated meta data is sent to the second storage system. The meta data and the data stream are stored on a storage device at the second data storage system. See, e.g., Abstract; and column 3, lines 22-47. Additionally, FIG. 1 shows a host CPU 12 that transfers data records to disk drives 16, 34 which are each controlled by a control unit 18, 30.

Unlike the present invention as claimed, Carreiro et al. does not disclose that the meta data is setting information, or that the meta data is comprised of permission information

or retention information. The reference fails to teach first and second storage volumes being configured to store data accessed from the host computer according to a block access command, wherein the second storage volume is managed based on the first setting information associated with the first storage volume after the data stored in the first storage volume are copied to the second storage volume, as recited in independent claim 20.

2. U.S. Patent No. 6,289,423 B1

The patent to Ozaki et al., US 6289423, discloses a system and method for copying data from a first information storage medium 8 to a second information storage medium 13. The system also copies attribute information that indicates whether the area storing the group is a ROM area or RAM area, and the attribute is copied to an area to which the group of data is to be copied in the destination information storing medium. See, e.g., Abstract; FIG. 1; column 2, line 62, through column 3, line 15; and column 3, line 66 to column 4, line 25.

Ozaki et al. does not disclose that setting information from a first storage volume is used for managing a second storage volume. The reference fails to teach first and second storage volumes being configured to store data accessed from the host computer according to a block access command, wherein the second storage volume is managed based on the first setting information associated with the first storage volume after the data stored in the first storage volume are copied to the second storage volume, as recited in independent claim 20.

3. U.S. Patent No. 6,446,176 B1

The patent to West et al., US 6446176, discloses a peer-to-peer remote copy method and system for transferring data from a primary storage system (e.g., 300) to a secondary storage system (e.g., 302) using bridge volumes (see, e.g., FIG. 3) and an internal snapshot copy of the data being transferred (see, e.g., FIG. 4). Along with the data being transferred, the system also packages meta data within the transferred data to identify the original data source and destination storage volumes. This allows the bridge to transfer the data from any primary storage volume to any secondary storage volume. The system includes a host 102 connected to a network 104. See, e.g., FIG. 1; Abstract; and column 6, lines 1-14.

West et al. does not disclose using setting information from a first storage volume for managing a second storage volume. The reference fails to teach first and second storage volumes being configured to store data accessed from the host computer according to a block access command, wherein the second storage volume is managed based on the first setting information associated with the first storage volume after the data stored in the first storage volume are copied to the second storage volume, as recited in independent claim 20.

4. U.S. Patent No. 6,671,705 B1

The patent to Duprey et al., US 6671705, discloses a data mirroring system in which a master storage unit 130 writes data to a slave storage unit 140, and along with the data, stores meta data in a write intent log (step 606). The meta data is used to quickly re-synchronize slave images following a failure in the master storage unit. The system also includes a host 110 coupled to the storage system 120, and an administrative interface through which the storage unit is managed and controlled. See, e.g., Abstract; column 2, line 66, through column 3, line 18, and column 4, lines 27-36.

Duprey et al. do not disclose that the meta data includes setting information that is used to manage a second storage volume, or permission and retention information. The reference fails to teach first and second storage volumes being configured to store data accessed from the host computer according to a block access command, wherein the second storage volume is managed based on the first setting information associated with the first storage volume after the data stored in the first storage volume are copied to the second storage volume, as recited in independent claim 20.

5. U.S. Patent No. 6,714,952 B2

The patent to Dunham et al., US 6714952, discloses a method and system for performing a data backup operation in a network that includes a multi-lingual network file system and multi-lingual network file server. Data files are transferred to a backup server from a file server. Additionally, one or more meta data files associated with the data are transferred as well. The meta data includes file size, record size, date information, edit history, or modification information associated with the file data. The system includes host systems 12 which communicate via a network 14 to a backup restore server 30 and multiple

file servers 16. The system also includes a storage area network 18 which controls access to various storage devices 20. See, e.g., Abstract; and column 2, lines 16-33, and lines 46-54.

Dunham et al. does not disclose that setting information from a first volume is used for managing a second volume. The reference fails to teach first and second storage volumes being configured to store data accessed from the host computer according to a block access command, wherein the second storage volume is managed based on the first setting information associated with the first storage volume after the data stored in the first storage volume are copied to the second storage volume, as recited in independent claim 20.

6. U.S. Patent Publication No. 2002/0083084 A1

The published patent application to Sugiyama, US 20020083084, discloses a database system which copies data from a source database to a destination database. The system also copies attribute information of an attribute item which cannot be set in the destination database to a predetermined attribute item in the destination database (see, e.g., steps S25 to S29 in FIG. 3). This allows the copying of data between databases with different attribute kinds of information. See, e.g., Abstract; and paragraphs [0010], [0012], and [0016]-[0018].

Sugiyama does not disclose that setting information from a first volume is used for managing a second volume. The reference fails to teach first and second storage volumes being configured to store data accessed from the host computer according to a block access command, wherein the second storage volume is managed based on the first setting information associated with the first storage volume after the data stored in the first storage volume are copied to the second storage volume, as recited in independent claim 20.

7. U.S. Patent Publication No. 2003/0074378 A1

The published patent application to Midgley et al., US 20030074378, discloses a system and method that provides for a continuous backup of data stored on a computer network. The system 10 includes a synchronization replication process 40 that replicates the selected source data files on the network to create a corresponding set of replicated data files that are stored back on a backup server. Not only is the file data moved to the backup server, but the meta data is also replicated to the file server. See, e.g., Abstract; and paragraphs [0008], [0009], and [0049].

Midgley et al. does not disclose a host computer coupled to the network, nor do Midgley et al. disclose that setting information from a first volume is used for managing a second volume. The reference fails to teach first and second storage volumes being configured to store data accessed from the host computer according to a block access command, wherein the second storage volume is managed based on the first setting information associated with the first storage volume after the data stored in the first storage volume are copied to the second storage volume, as recited in independent claim 20.

8. U.S. Patent Publication No. 2003/0229764 A1

The published patent application to Ohno et al., US 20030229764, discloses a storage subsystem in which data and data attributes are copied from a first storage subsystem 11a to a second storage subsystem 11b. The data attributes include items of access setting list, reservation control information, access enabling key value, active host ID, logical volume tag information, etc. The attribute information is transmitted from the first storage subsystem to the second storage subsystem with intervention from the host computer 61. See, e.g., Abstract; and paragraphs [0010] and [0013].

Ohno et al. does not disclose that setting information from a first volume is used for managing a second volume, or that the meta data information includes permission information and retention information. The reference fails to teach first and second storage volumes being configured to store data accessed from the host computer according to a block access command, wherein the second storage volume is managed based on the first setting information associated with the first storage volume after the data stored in the first storage volume are copied to the second storage volume, as recited in independent claim 20.

9. U.S. Patent Publication No. 2003/0236956 A1

The published patent application to Grubbs et al., US 20030236956, discloses a file system backup in a logical volume management data storage environment. Grubbs describes a file backup system which upon a file system backup request, writes meta data and buffered user data to logical volumes. See, e.g., Abstract and paragraph [0015]. Additionally, FIG. 2 shows a server hosted data storage system 200 that includes data storage and management devices having a host server processor 212 and associated system memory 214. The system also includes a logical layer 104 that controls and coordinates disk

resources by mapping data between a simple and flexible logical view of storage space within a designated volume group 108. See paragraphs [0025] and [0031].

Grubbs et al. does not disclose that setting information from a first volume is used for managing a second volume, or that the meta data includes attribute and permission information. The reference fails to teach first and second storage volumes being configured to store data accessed from the host computer according to a block access command, wherein the second storage volume is managed based on the first setting information associated with the first storage volume after the data stored in the first storage volume are copied to the second storage volume, as recited in independent claim 20.

10. U.S. Patent Publication No. 2004/0172512 A1

The published patent application to Nakanishi et al., US 20040172512, discloses a backup method and apparatus in which data, and a volume name related to the data, are copied to a backup system. The system includes a work server 150 on which a program including functions of an application service unit 151 and an environment information collection unit 152 operates. A RAID disk apparatus operation unit 130 controls the copy function. See, e.g., Abstract; and paragraphs [0028]-[0029].

Nakanishi et al. does not disclose that setting information from a first volume is used for managing a second volume, or that the additional information that is included with the data to be backed up comprises permission and retention information. The reference fails to teach first and second storage volumes being configured to store data accessed from the host computer according to a block access command, wherein the second storage volume is managed based on the first setting information associated with the first storage volume after the data stored in the first storage volume are copied to the second storage volume, as recited in independent claim 20.

11. U.S. Patent Publication No. 2003/0110237 A1

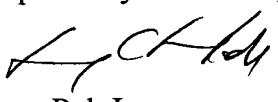
This reference discloses a data migration system for migrating data between an existing file server apparatus 3 and a new file server apparatus 4 in a computer system that includes a plurality of host computers 1, 2 and a plurality of file server apparatuses that are mutually connected to one another. The data migration system on the new file server apparatus copies file attributes unique to the network attached storage (NFS) 341 and file

attributes unique to the common internet file system (CIFS) 342 from the existing file server apparatus 3, and stores the file attributes without changing the file attributes in the new file server apparatus 4. Then actual data is moved from the existing file server to the new file server. When a file access to data is made from a host computer during the file migration process, and if the data has not been migrated from the existing file server to the new file server, the data is read out from the existing file server onto the new file server, and the file access is processed by the new file server as if the existing file server were processing the file access.

The reference relates to processing file access with file attributes. The reference fails to teach first and second storage volumes being configured to store data accessed from the host computer according to a block access command, wherein the second storage volume is managed based on the first setting information associated with the first storage volume after the data stored in the first storage volume are copied to the second storage volume, as recited in independent claim 20.

(f) In view of this petition, the Examiner is respectfully requested to issue a first Office Action at an early date.

Respectfully submitted,



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Attachments
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60475740 v1